




National Center for Health Statistics

Coronavirus Disease 2019 (COVID-19) FAQs

The National Center for Health Statistics (NCHS) is providing answers to frequently asked questions (FAQs) about the release of provisional data on deaths due to COVID-19, as well as questions about the processes for coding deaths and guidance provided to certifiers on how to report deaths due to COVID-19 on death certificates. Additional FAQs will be added to this page as new questions are received. This page is divided into four main sections: How NCHS Collects and Reports Data on Deaths Due to COVID-19, Surveillance of Deaths Due to COVID-19, Coding Deaths Due to COVID-19, and Certifying Deaths Due to COVID-19.

How NCHS Collects and Reports Data on Deaths Due to COVID-19

What is the source of NCHS' death data on COVID-19?

- When an individual dies, important information about the person and the death is collected and reported on a [death certificate](#) , which is registered by jurisdictional vital records offices. There are 57 vital registration jurisdictions in the United States: 50 states, DC, NYC, and 5 territories, hereafter referred to as "states."
- State vital records offices send information collected on the death certificates to NCHS, where the death records are compiled and used to produce the nation's official death statistics.
- The provision of death certificates through the National Vital Statistics System (NVSS) is the longest-running example of inter-governmental data sharing in the United States and predates COVID-19.
- The NVSS provides nationwide conventions and standards for reporting and coding of death certificates.

Who reports the information on death certificates?

- The *medical information* is provided by the physician, medical examiner, other medical professional, or coroner who determines and certifies the cause(s) and manner of death. Certifiers are asked to use their best medical judgment based on the available information and their expertise to determine the cause(s) and manner of death.
- The *demographic information* on the death certificate is reported by a funeral director, who collects it from the family or someone else close to the person who died, also known as an "informant." Demographic information includes age, sex, race and Hispanic origin, and other characteristics about the person.

Surveillance of Deaths Due to COVID-19


What is officially counted as a COVID-19 death?

- Deaths are attributed to COVID-19 when Coronavirus Disease 2019, COVID-19, or other similar term(s) are reported as a *cause* or *contributing cause* of death on the death certificate.
 - When COVID-19 is reported by the certifier as a cause of death, it is coded to the *International Classification of Diseases, 10th Revision* (ICD-10) code for mortality for COVID-19, which is **U07.1**.
 - NCHS counts of deaths due to COVID-19 include only deaths that have U07.1 as a *cause* or *contributing cause* of death.
- The U07.1 code is assigned using the same processes and principles that have been used for decades for assigning codes for all other causes of death.
- In cases where COVID-19 is reported as a “probable” or “presumed” cause of death, the record will receive the U07.1 code and be included in the count of deaths due to COVID-19. These cases can include those without laboratory confirmation, but the certifier determined that COVID-19 was a likely cause of death (e.g., the circumstances were compelling within a reasonable degree of certainty).
- The terms “probable” or “presumed” can be used on a death certificate for any causes of death, not just for COVID-19. Any “probable” or “presumed” cause is coded to the ICD-10 code for that condition.
- If the certifier does not report COVID-19 on the death certificate, NCHS will not code U07.1 or attribute the death to COVID-19.

For more specific information on coding COVID-19, please see the section, [Coding Deaths Due to COVID-19](#).

What are provisional data and how are they different from final mortality data?

- NCHS publishes provisional counts of deaths due to COVID-19, as well as final mortality data.
- Provisional data include data received from state vital records offices as they are submitted, but do not include all deaths for a given state and time period.
 - The provisional data, while incomplete, provide a more “real-time” picture of deaths as they are received by NCHS.
 - All provisional counts are not final; they are estimates. These numbers are continually updated as more death records are received and processed by NCHS.
- In contrast, the final data include all registered deaths and are considered the official record of deaths for a given calendar year.
 - Final mortality data are released about 10 months after the end of the year.


To understand provisional data for COVID-19, please see [Understanding the Numbers: Provisional Death Counts and COVID-19](#) 

- The following provisional estimates are available from NCHS:
 - [Provisional Death Counts for Coronavirus Disease 2019 \(COVID-19\)](#), which provides tabulated data on provisional death counts for COVID-19 by week of death and state in the U.S.
 - [Weekly Updates by Select Demographic and Geographic Characteristics](#), which provides tabulated data on provisional counts of deaths due to COVID-19 by age, sex, race and Hispanic origin, and comorbidities. This page also includes an index of state-level and county-level mortality data available for download.
 - [Excess Deaths Associated with COVID-19](#), which presents estimates of excess deaths related to the COVID-19 pandemic using visualizations in addition to tabular presentation.

Please visit [COVID-19 Death Data and Resources](#) to find the latest information and links from NCHS.

Why are NCHS provisional COVID-19 death counts different from other sources, such as the numbers reported in the media?

- There are several reasons why NCHS provisional counts of deaths due to COVID-19 may not match counts from other sources such as the media or state and local health departments. **The primary reason is other reports may not be based on death certificate data.** Some of the other major reasons are that other reports may:
 - use different methods for counting deaths,
 - use estimates and extrapolations,
 - use different definitions of a COVID-19 death, or
 - cover different periods of time as there is a lag time in reporting deaths through the NVSS.
- NCHS counts of deaths due to COVID-19 are based only on death certificate records registered with states where a certifying physician, medical examiner, other medical professional, or coroner made the determination that COVID-19 *caused* or *contributed* to the death.
- Other sources rely on data from a variety of sources. These may include official counts from state and local health departments but can also include unofficial reports from hospitals and media reports compiled by journalists.


For more about NCHS provisional death counts, please see this fact sheet: [Understanding the Numbers: Provisional Death Counts and COVID-19](#) .

Why are the NCHS data older than daily updates from other sources?

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NCHS counts of deaths due to COVID-19 are based on provisional data which may not yet be complete – especially for more recent time periods – and may change as more and updated information is reported. Counts from death certificates often track 1-2 weeks behind other data because:

- **Death certificates take time to be completed.** There are many steps involved in completing, registering, and submitting a death certificate. Waiting for test results can create additional delays.
- **States report at different rates.** Currently, 63% of all U.S. death certificates are submitted to NCHS within 10 days of the date of death, but there is significant variation among states.
- **It takes extra time to code death certificates with COVID-19 reported on them.** An increasing number of deaths due to COVID-19 can be coded automatically, but most deaths from COVID-19 cannot be coded automatically and must be coded manually by a trained professional, called a nosologist.

For more about NCHS provisional death counts, please see this fact sheet: [Understanding the Numbers: Provisional Death Counts and COVID-19](#) 

What information does NCHS provide on race and ethnicity for COVID-19 deaths?

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- Provisional data for deaths due to COVID-19 by race and Hispanic origin at the national, state, and county levels, as well as by age, are available in the [Weekly Updates by Select Demographic and Geographic Characteristics](#).
- Race and Hispanic origin are collected on death certificates. This information is usually reported by funeral directors, who gather it from the family or someone else close to the person who died.

What are unweighted and weighted population distributions by race and Hispanic origin group, and why do you provide them?

- *Unweighted population distributions* show the observed percent of the population that falls into each race and Hispanic origin group, either for a given state or in the United States overall. These unweighted distributions can be used to obtain a crude (unadjusted) estimate of the percent of COVID-19 deaths experienced by some groups relative to their observed percent of the population.
- However, deaths from COVID-19 are concentrated in certain states and in certain areas within states. The population composition by race and Hispanic origin of each of these areas can be very different from the distribution of the total United States population.
- *Weighted population distributions* use county-level data to more closely align with the population distributions in the specific areas where COVID-19 deaths are occurring. Weighted population distributions can be used to obtain adjusted estimates that account for the geographic clustering of COVID-19 deaths.

Why do you also adjust for differences in age?

- There are also differences in the age distribution of different race and Hispanic origin groups, both in the population and in COVID-19 deaths. To account for the differences in these factors, age-adjusted estimates are required.
 - Differences between the percent of deaths among each race and Hispanic origin group and their corresponding percent of the weighted or unweighted population are shown by age group in order to provide information about how disparities in deaths vary by age.
 - Additionally, age-standardized differences between a given group's share of COVID-19 deaths and share of the weighted and unweighted populations are shown. These age-standardized distributions show what disparities would look like if the age distribution was the same across all race and Hispanic origin groups for both COVID-19 deaths and the population.
- For both age and geographic data, the magnitude of the differences between crude and adjusted estimates will differ by state, and will also vary over time as the geographic pattern of COVID-19 mortality changes (i.e., if the pattern shifts from deaths occurring in more urban areas to more suburban or rural areas, or from older to younger age groups).

For a more detailed explanation of how these numbers are calculated, please see the technical notes section on [Estimated distributions of COVID-19 deaths and population size by race and Hispanic origin](#) and the page, [Health Disparities: Race and Hispanic Origin](#).

Is it appropriate to compare COVID-19 mortality data among states?

- Provisional death counts should *not* be compared across states. Some states submit death certificate records daily, while other states submit records weekly, monthly, or even less frequently.
- State death certificate reporting may also be affected or delayed by COVID-19-related response activities.

Are COVID-19 deaths overcounted or undercounted?

Counts of deaths due to COVID-19 are most likely undercounting the true number of deaths due to COVID-19 because:

- testing availability and criteria may have caused many cases to go unrecognized;
- COVID-19 may affect many body systems, and thus may not always be recognized as a cause of death;
- COVID-19 may amplify pre-existing health conditions leading to death, but not be recognized as a cause of death by the medical certifier; and
- many of the excess deaths that are not reported as due to COVID-19 may be caused by COVID-19, as well as other causes.

Is further analysis being done to figure out the number of deaths due to COVID-19 that may not have been identified?

- To help put counts of deaths due to COVID-19 in context and address some concerns about the accuracy of cause-of-death reporting, NCHS also publishes estimates of “excess deaths.”
- Excess deaths are calculated by comparing the total number of deaths reported for all causes with the total number of deaths that would have been expected based on death counts from previous years (i.e., prior to the COVID-19 pandemic). By comparing these totals, it can be seen where and when mortality is increasing, regardless of the cause.
- Excess death information is not limited by variability in testing for the virus or reporting of deaths due to COVID-19.
- It is possible that some excess deaths not attributed to COVID-19 on the death certificate could be due to COVID-19. However, excess deaths can also be due to other causes of death that are being impacted by the pandemic. For example, if people are afraid to go to the hospital when they suffer a heart attack or stroke and care is delayed, they may die as a result and there may be an increase in deaths from these causes.
- Excess deaths are also shown for select causes of death such as heart disease and respiratory diseases.
- NCHS currently publishes [visualizations of estimates of excess deaths associated with the COVID-19 pandemic](#). These are updated weekly based on data received from the states. Note that these numbers are not final and are subject to change as more deaths are reported and the data become more complete.

Coding Deaths Due to COVID-19

Is there an ICD-10 code for COVID-19?

Yes, there is an *International Classification of Diseases, 10th Revision* (ICD-10) code for mortality for COVID-19. The code is **U07.1**.

This is an emergency code that was issued by the World Health Organization (WHO) in January 2020 to identify deaths from COVID-19 and help track the new and evolving pandemic.

For more information, see [Notification of New ICD Code Introduced for COVID-19](#). 

The World Health Organization also issued another code, U07.2, for “COVID-19, virus not identified.” — Why didn't NCHS implement this code?

The WHO issued a second ICD-10 code, **U07.2**, for clinical or epidemiological diagnosis of COVID-19 where a laboratory confirmation was inconclusive or not available. Because certifiers in the U.S. do not typically report laboratory test results on death certificates, NCHS did not implement U07.2 for mortality statistics. When laboratory confirmation is inconclusive or unavailable, certifiers determine and report the causes of death on the death certificate based on medical history, medical records, autopsy report (if available), and other relevant sources of information.

For more information, see [Notification of New ICD Code Introduced for COVID-19](#). 

How is COVID-19 coded when it is reported on the death certificate? —

Terms in the cause-of-death section on death certificates indicating COVID-19 are coded to **U07.1**. These terms include, but are not limited to:

- COVID-19,
- Coronavirus Disease 2019,
- COVID, and
- SARS-CoV-2.

In addition, if any of the above terms are reported as a “probable” or “presumed” cause of death on the death certificate, the code U07.1 would be assigned. Certifiers can use “probable” or “presumed” for any cause of death if they determine with a reasonable degree of medical certainty that a condition caused or contributed to the death. NCHS regularly accepts these terms when they are used with any condition reported as a cause of death on a death certificate. **Any condition reported by the certifier as a “probable” or “presumed” cause of death is assigned the code for that condition.**


If “pending COVID-19 testing” is reported on the death certificate, it will *not* be coded as U07.1 and will require that the certifier provide an update when the test results are available. If an update is not received, NCHS follows up with state registrars on these records.

If COVID-19 is reported in the cause-of-death section of the certificate, but the manner of death is “pending,” U07.1 is tentatively assigned for the term “COVID-19,” but these records also require follow-up.

If the certifier reports “COVID-19 exposure” or “possible COVID-19 exposure,” the code U07.1 is *not* assigned. NCHS does *not* code exposures. A person may be exposed to COVID-19, but that does not mean the patient became infected with the virus, developed the disease (exhibited its signs or symptoms), or that it was a condition that caused or contributed to death. **Certifiers are asked to only report medical conditions that they determine to be a *cause or contributing cause of death on the death certificate.***

More general terms like “Coronavirus” without an indication of the specific strain will be coded to B34.2, “Coronavirus infection, unspecified site.” NCHS will query the state registrar about records with the B34.2 code. If the state registrar confirms that it was *not* the 2019 strain, the code will remain B34.2 and the death will *not* be counted as due to COVID-19. If the state registrar indicates that it was specifically COVID-19 that caused or contributed to the death, the code will be changed to U07.1.

What if COVID-19 is reported in Part II, other significant conditions contributing to death, of the cause-of-death section on the death certificate? How are these records coded?

If COVID-19 is reported in Part II, the term will be assigned the U07.1 code and the death will be counted as due to COVID-19. Part II is for reporting other significant conditions that contributed to the death, but are not a part of the sequence of conditions directly leading to the death in Part I. For more information, see the [2003 U.S. Standard Certificate of Death](#)  and [Q&A on what is officially counted as a COVID-19 death](#).

Certifying Deaths Due to COVID-19


What terms should medical certifiers use to identify COVID-19 as a cause of death on the death certificate?

If the medical certifier determines that COVID-19 is a cause of death, it should be reported on the death certificate using standard World Health Organization (WHO) terminology, such as **Coronavirus Disease 2019** or **COVID-19**.

As is the case with all causes of death, it is important for the certifier to be specific when reporting COVID-19 on the death certificate. If the certifier intends to refer to the 2019 strain, it is *critical* that they use terminology that indicates the 2019 strain. Only then will the ICD-10 code for COVID-19 be assigned (U07.1).

More general terms like “Coronavirus” without an indication of the specific strain will *not* be automatically coded to U07.1; these records are being followed up on and may result in a query to the certifier for clarification.

See our [Guidance for Certifying Deaths Due to COVID-19](#)  for more details.


Death certificates are our nation's official source of data about mortality and causes of death, so the quality of this information is critical. In vital statistics, the causes of death are determined by a physician or other certifier and documented on the [death certificate](#) . The quality of cause-of-death data depends on certifiers providing **complete** and **accurate** information.

Complete means that the cause-of-death statement describes a clear chain of events from the immediate cause of death to the underlying cause of death, that other conditions that contributed to death are reported, and that the information provided is specific. The WHO defines the underlying cause of death as “(a) the disease or injury which initiated the train of morbid events leading directly to death or (b) the circumstances of the accident or violence which produced the fatal injury.” (1)


Current estimates are that about 20-30% of cause-of-death statements have issues with completeness. For example, if a patient died from acute respiratory distress syndrome (ARDS) and the certifier reported “acute respiratory distress syndrome” on the death certificate, this would be an accurate statement. However, this statement would be incomplete because ARDS can be caused by many different conditions. For this cause-of-death statement to be complete, the certifier would need to specify the condition that led to ARDS as well. In this instance, the certifier should report both ARDS and the underlying cause of death in the cause-of-death statement on the death certificate. While not every cause-of-death statement is complete, this does not mean it is inaccurate.


Accurate means the certifier reported the correct conditions as causes of death. Note that the cause-of-death section of the death certificate does *not* merely ask what conditions the decedent had, but *which* of those conditions *caused* or *contributed* to death. Because there are no objective measures of what caused a person's death, cause-of-death statements are a *medical opinion*. Even an autopsy may not reveal an obvious cause of death, and the certifier must still decide which conditions to report as causes of death on the death certificate. Evaluating the accuracy of cause-of-death statements from death certificates is very difficult, as this requires external data sources that are usually not linked to death certificates, often require manual record review, and need to allow for reasonable differences in medical opinion.

NCHS relies on certifiers to use their best medical judgment in determining the causes of death based on their knowledge of the case and available information, such as medical records or laboratory testing. If the certifier determines that a condition caused or contributed to death, it should be reported on the death certificate. Certifiers can use “probable” or “presumed” for any cause of death if they determine with a reasonable degree of medical certainty that a condition caused or contributed to death. **If a certifier determines that a condition did *not* cause or contribute to the death, it should *not* be reported on the death certificate.**

More detailed information on reporting COVID-19 as a “probable” or “presumed” cause of death, as well as situations in which it is *not* appropriate to report COVID-19 on the death certificate, can be found in NCHS' [Guidance for Certifying Deaths Due to COVID-19](#)  and in the following Q&As below.

Because there are no objective measures of what caused a person’s death, cause-of-death statements are a *medical opinion*. Even an autopsy may not reveal an obvious cause of death, and the certifier must still decide which conditions to report as causes of death on the death certificate. When laboratory confirmation is inconclusive or unavailable, certifiers determine and report the causes of death on the death certificate based on medical history, medical records, autopsy report (if available), and other relevant sources of information. The physician or other certifier should always use his or her best medical judgment in determining and reporting the cause(s) of death on death certificates. **It is the certifier’s responsibility to make these determinations.**

For any cause of death (not just COVID-19), the terms “probable” or “presumed” may be used if the certifier determines within a reasonable degree of medical certainty that a condition was a likely cause of death. NCHS accepts these terms for any condition reported as a cause of death on the death certificate. There is no requirement for certifiers to use these terms, and certifiers should not report conditions that they determine are not likely causes of death. For more information, please see the [Physician’s Handbook on Medical Certification of Death](#) .

NCHS has provided the following guidance on [certifying deaths due to COVID-19](#) .

When determining whether COVID-19 played a role in the cause of death, follow the CDC clinical criteria for evaluating a person under investigation for COVID-19 and, where possible, conduct appropriate laboratory testing using guidance provided by CDC or local health authorities. More information on CDC recommendations for reporting, testing, and specimen collection, including postmortem testing, is available from: <https://www.cdc.gov/coronavirus/2019-nCoV/hcp/clinical-criteria.html> and <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-postmortem-specimens.html>....In cases where a definite diagnosis of COVID-19 cannot be made, but it is suspected or likely (e.g., the circumstances are compelling within a reasonable degree of certainty), it is acceptable to report COVID-19 on a death certificate as “probable” or “presumed.” In these instances, certifiers should use their best clinical judgement in determining if a COVID-19 infection was likely. However, please note that testing for COVID-19 should be conducted whenever possible. (p.2)

What about the case of a known or possible exposure to COVID-19? Should certifiers report these on the death certificate?

Certifiers should *not* report “exposure to COVID-19” or “possible exposure to COVID-19” on death certificates. A person may be exposed to the virus, but that does not mean the patient contracted or became infected with the virus, developed the disease (exhibited its signs or symptoms), or that it caused or contributed to the death. Certifiers should only report medical conditions that they determine to be a *cause* of death on the death certificate.

Conversely, COVID-19 should *not* be listed on the death certificate if the certifier determines it was not a likely cause of death.

Should the certifier report COVID-19 on the death certificate for every case with confirmed positive test results for COVID-19?

No, COVID-19 should *not* be reported on the death certificate as a cause of death for every case with confirmed positive test results for the virus that causes COVID-19. **Certifiers should report COVID-19 on the death certificate only if they determine that the person developed the disease (exhibited its signs or symptoms) and that COVID-19 *caused* or *contributed* to the death.**

The cause-of-death section of the death certificate does *not* ask certifiers to report all conditions the decedent had. Certifiers should only report those conditions that they determine *caused* or *contributed* to the death. They should use their best medical judgment in determining which conditions to report as causes of death based on their knowledge of the case and available information, such as medical records, laboratory testing, etc.

What about the possibility of false negative tests? How should certifiers report the cause of death if they think the test results for COVID-19 were a false negative?

There is the possibility of false negative results when testing for the virus that causes COVID-19. If the certifier believes the test results were a false negative and has determined using their best medical judgment that the patient likely had COVID-19 and it was a likely cause of death, they may report COVID-19 in the cause-of-death section of the death certificate as “probable” or “presumed.”

Should certifiers specify on the death certificate that test results for COVID-19 were negative or COVID-19 was not a cause of death (for example, report “COVID-19 testing negative” or “not COVID-19”)?

No, laboratory test results themselves are *not* reported on death certificates. Only causes of death should be reported on death certificates.

If the test results are negative and the certifier determines that the patient did not have COVID-19 and it was not a cause of death, they should simply *not* report it on the death certificate.

If the certifier does not report COVID-19 as a cause of death on the death certificate, NCHS will not code COVID-19 or attribute the death to COVID-19.

How can certifiers account for pending test results when completing a death certificate?

If test results are still pending at the time the death certificate is completed, certifiers can submit the death certificate with “COVID-19 test results pending” or other similar language in the cause-of-death section. Note that these terms will *not* be coded to U07.1.

When the test results are available, the certifier should determine the cause(s) of death and update the death certificate through the state vital records office. The updated certificate will then be submitted to NCHS. If an update is not received, NCHS will follow up with the state registrars.

What are your recommendations for using post-mortem testing and autopsies to detect potential deaths due to COVID-19?

NCHS recommends post-mortem testing of persons with known or suspected COVID-19 whenever possible. Guidance for post-mortem testing can be found in [CDC's interim guidance for collection and submission of postmortem specimens from deceased persons with known or suspected COVID-19](#).

Healthcare professionals considering post-mortem testing for the virus that causes COVID-19 should work with state and local health departments to coordinate this testing through public health laboratories, or they can work through clinical laboratories to use diagnostic testing authorized by the FDA under an emergency use authorization (EUA). Healthcare professionals interested in testing autopsy tissues through the CDC should contact their state or local health department.

NCHS also encourages the use of autopsies, whenever possible, to aid the certifier in determining the cause(s) of death.

More Information about COVID-19 Death Data and Reporting:

Where can I find more information, resources for training, and guidance on COVID-19 and cause-of-death certification in general?

Resources are available and being updated on the NCHS website: [COVID-19 Data from the National Center for Health Statistics](#)

Here is a current list of resources:


Death Data, Resources, and Alerts

- [COVID-19 Death Data and Resources](#)




COVID-19 Testing Guidance

- [Overview of Testing for SARS-CoV-2](#)
- [Collection and Submission of Postmortem Specimens from Deceased Persons with Known or Suspected COVID-19 \(Interim Guidance\)](#)


Guidance for Certifying Deaths Due to COVID-19

- [Reporting and Coding Deaths Due to COVID-19](#)
- [Guidance for Certifying Deaths Due to Coronavirus Disease 2019 \(COVID-19\)](#) 
- [Video: Certifying Deaths Due to Coronavirus Disease 2019 \(COVID-19\)](#)
- [Webinar: Guidance for Certifying Deaths Due to Coronavirus Disease 2019 \(COVID-19\)](#)

Guidance for Certifying Deaths Due to Natural Causes (General)

- [Physician's Handbook on Medical Certification of Death](#) 
- [Improving Cause of Death Reporting Online Training Module](#)
- [Cause of Death Mobile App](#)
 - [Apple/iPhone](#) 
 - [Google/Android](#) 

More Training and Instructional Materials

- [Funeral Director's Handbook: Death Registration and Fetal Death Reporting](#) , includes information on reporting age, sex, race and Hispanic origin, education, and occupation and industry
- [Guidelines for Reporting Occupation and Industry on Death Certificates](#)

References

1. World Health Organization. International statistical classification of diseases and related health problems, 10th revision (ICD-10), Volume 2. 5th ed. Geneva, Switzerland. 2016.

